

**REMARKS**

This is a timely reply to the non-final Office Action of March 6, 2003. In that non-final Office Action, the Examiner allows Claims 31 - 43. The Examiner also indicates that Claims 7-22 and 24 - 30 are allowable, but objects to these claims since they depend upon rejected base claims. Finally, the Examiner rejects Claims 1 - 6 and 23. The grounds for rejection of Claims 1 - 6 and 23 are traversed below.

**Piecemeal Prosecution**

Before addressing the rejection of the claims on the merits, the Applicant respectfully reminds the Examiner of the Patent Office's rules and instructions regarding the avoidance of piecemeal examination. See 37 C.F.R. 1.104(a)(1) and MPEP 707.07(g). Specifically, 37 C.F.R. 1.104(a)(1) states, in part, "On taking up an application for examination or a patent in a reexamination proceeding, the examiner shall make a thorough study thereof and shall make a thorough investigation of the available prior art relating to the subject matter of the claimed invention." The Applicant notes that this non-final Office Action was issued after the Examiner withdrew the finality of the previous Office Action. Further, the Applicant notes that the Paek reference, with an issue date of May 21, 2002, was available to the Examiner at the time of the issuance of all previous Office Actions for this application, but it has only been cited in this most recent Office Action. The Applicant submits that this late citation of the reference may unnecessarily prolong the prosecution of this application and, therefore, comprise improper piecemeal prosecution.

**Claim Rejection - 35 U.S.C. § 102 based on Paek**

In Section 5 of the Office Action, the Examiner rejects Claims 1 - 5 and 23 under 35 U.S.C. 102(b) as being anticipated by Paek (U.S. Patent 6,393,177). The Applicant thanks the Examiner for his comments regarding the '177 reference in relation to the features recited in the rejected claims. However, the Applicant respectfully submits that the Examiner has not shown that Paek teaches each and every element as recited in the rejected claims.

Regarding Claim 1, the Examiner asserts that Paek teaches reference teaches at Fig. 1 and at column 4, line 43 to column 5, line 62, "a plurality of output optical pulse streams, each having controllable delay based on the chirped fiber gratings 21 and beam deflectors 23 that are used to output optical streams to the windows 25." However, the Applicant notes that the Examiner has not cited a specific reference number or a range of line numbers to support the asserted disclosure of "a plurality of output optical pulse streams." Where does Paek teach, disclose, or suggest such a feature?

Paek describes that "if light from a pulsed source 35 ( ... ) with a wide spectral bandwidth,  $\Delta\lambda_{sc}$ , is launched into fiber 19, each particular wavelength of the input light is reflected at a corresponding unique fiber chirp grating 21 to give the desired time delay." Paek, col. 5, ll. 54 - 61. Paek further states "in this way, each time delay is encoded by the corresponding wavelength." Paek, col. 5, ll. 61-62. Hence, Paek discloses time-delaying the individual optical wavelengths that make up the broad spectrum optical pulse, and, therefore, generating an optical pulse that has encoded wavelengths where the encoded wavelengths correspond to the time delays. Therefore, the Applicant submits that Paek does not teach a plurality of output optical pulse streams at col. 4, l. 43 to col. 5, l. 62, as asserted by the Examiner. Instead, Paek appears to teach, at best, a single output optical stream in which the optical pulses have encoded wavelengths.

On the other hand, Claim 1 recites, in part, "a controllable optical delay structure coupled to the optical pulse source, the optical delay structure providing a plurality of output optical pulse streams." (Underlining added for emphasis). As discussed above, the Applicant submits that the Examiner has not shown where Paek teaches, discusses, or suggests this feature. If the Examiner disagrees, he is respectfully requested to specifically point out and clearly explain where Paek discloses this feature as set forth in Claim 1. Otherwise, the Applicant requests that the rejection of Claim 1 based on Paek be withdrawn.

Regarding Claims 2 and 3, the Applicant submits that the rejection of these claims should be withdrawn at least based upon their dependence, either directly or indirectly, on Claim 1. Further, the Examiner merely states that "steerable beam deflectors are used with linear output arrays." However, the Examiner has neither provided a reference to any specific portion of Paek

that makes this disclosure, nor has the Examiner cited any specific element number for these alleged elements in Paek. Paek does disclose an acousto-optic beam deflector 23, but the Applicant does not understand how this element discloses "an array of optical apertures" as recited in Claims 2 and 3. Therefore, the Applicant submits that the Examiner has not shown where Paek teaches, discusses, or suggests each and every element as set forth in Claims 2 and 3. If the Examiner disagrees, he is respectfully requested to specifically point out and clearly explain where Paek discloses all of the elements as set forth in these claims. Otherwise, the Applicant requests that the rejection of Claims 2 and 3 based on Paek be withdrawn.

Regarding Claims 4 and 5, the Applicant submits that the rejection of these claims should be withdrawn at least based upon their dependence, either directly or indirectly, on Claim 1.

Regarding Claim 23, as similarly discussed above, the Applicant submits that the Examiner has not shown that Paek discloses "the optical delay structure providing a plurality of delayed optical pulse streams" as recited in Claim 23. If the Examiner disagrees, he is respectfully requested to specifically point out and clearly explain where Paek discloses this feature as set forth in Claim 23. Otherwise, the Applicant requests that the rejection of Claim 23 based on Paek be withdrawn.

**Claim Rejection - 35 U.S.C. § 102 based on Labaar**

In Section 6 of the Office Action, the Examiner rejects Claims 1 and 23 under 35 U.S.C. 102(b) as being anticipated by Labaar (U.S. Patent 5,272,484). The Applicant respectfully submits that the Examiner has not shown that Labaar teaches each and every element as recited in the rejected claims.

The Examiner asserts that Labaar teaches "an optical system (and inherent method of using same comprising: an optical pulsed signal 30, ..." However, the field of the invention disclosed in Labaar is "a system and method for introducing true time delays in an RF signal . . . and more particularly . . . for introducing true time delays in pulsed RF signals . . ." Labaar, col. 1, ll. 8 - 14. The Examiner specifically cites the abstract and Claim 1 of Labaar, but neither of these portions of Labaar even use the word "optical," much less disclose each and every element of the rejected claims. In fact, a word search of the Labaar reference as provided at the USPTO web site reveals

that there is apparently no use of the word "optical" anywhere in the reference. Therefore, the Applicant submits that Labaar discloses only an RF system.

Specifically, regarding Claim 1, the Applicant submits that the Examiner has not shown that Labaar discloses "an optical pulse source generating an input optical pulse stream, a controllable optical delay structure coupled to the optical pulse source, the optical delay structure providing a plurality of output optical pulse streams" as recited in Claim 1. (Underlining added for emphasis). As noted above, Labaar appears to merely disclose an RF system, which does not teach, disclose, or suggest each and every element as set forth in Claim 1. If the Examiner disagrees, he is respectfully requested to specifically point out and clearly explain where Labaar discloses each and every element as set forth in Claim 1. Otherwise, the Applicant requests that the rejection of Claim 1 based on Labaar be withdrawn.

Regarding Claim 23, the Applicant submits that the Examiner has not shown that Labaar discloses "providing an optical pulse stream; coupling the optical pulse stream into a controllable optical delay structure, the optical delay structure providing a plurality of delayed optical pulse streams" as recited in Claim 23. As noted above, Labaar appears to merely disclose an RF system, which does not teach, disclose, or suggest each and every element as set forth in Claim 23. If the Examiner disagrees, he is respectfully requested to specifically point out and clearly explain where Labaar discloses each and every element as set forth in Claim 23. Otherwise, the Applicant requests that the rejection of Claim 23 based on Labaar be withdrawn.

**Claim Rejection - 35 U.S.C. § 103 based on Paek**

In Section 8 of the Office Action, the Examiner rejects Claim 6 under 35 U.S.C. 102(b) as being made obvious by Paek. As discussed above, the Applicant submits that the Examiner has not shown that Paek discloses each and every element as set forth in Claim 1. Therefore, the Applicant submits that the rejection of Claim 6 should be withdrawn at least based upon its indirect dependence on Claim 1.

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Response

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**Conclusion**

For the reasons set forth above, the Applicant request that the Examiner withdraw the rejections of Claims 1 - 6 and 23. The Applicant further notes that Claims 31 - 43 are allowed and Claims 7 - 22 and 24 - 30 are allowable. In view of the above, reconsideration and allowance of all claims of the application are respectfully solicited.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

I hereby certify that this correspondence is being facsimile transmitted to Fax No. 703-872 9318 and addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

June 6, 2003  
(Date of Transmission)

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6-6-2003  
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**FAX NUMBER:** (703) 872-9318  
**FROM:** Ross Schmitt  
**DATE:** June 6, 2003  
**TOTAL NO. OF PAGES (INCLUDING THIS PAGE):** 7  
**SUBJECT :** Response  
U.S. Application No. 09/877,976  
David M. Pepper  
"Electro-optical Programmable True-Time Delay Generator"  
Our Ref: B-3918 617820-9

**REMARKS:**

Examiner Petkovsek:

Enclosed is a response to the Office Action mailed on March 6, 2003 consisting of:  
Response - 6 pages

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